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(54) Title: CASE (57) Abstract Case comprising a pocket (20), a flap (12) closing and opening the pocket, at least one carrier (22) being slidable in the pocket and connected to the flap; opening the flap slides the carrier to project at least partly from the pocket in order to facilitate removal of an object from the carrier.		

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CASE

This invention relates to cases.

The term "case" is used generally and includes such items as document wallets, credit card cases, CD holders, brief cases, document files and so on. Other examples of cases to which the invention can be applied will likely occur to the reader.

In accordance with one aspect of the invention, there is provided a case, comprising: a pocket formed between a front member and a back member and having an opening at one side between said front and back members; and a flap mounted on the back member for movement between a closed position in which it closes the pocket and an open position in which the pocket is open, at least one carrier being slidable in the pocket and connected to the flap, the distance along the surface of a carrier from a first point on the carrier to the joint with the flap, being less than the distance to said joint along the surfaces of the back member and the flap from a second point on the surface of the back member which second point is adjacent the first point when the flap is in its closed position, so that movement of the flap from its closed position to its open position causes the carrier(s) to project partly from or further from the pocket.

When an object, e.g. a document, a CD or a credit card, is stored in the case, opening the flap slides the

carrier to present a portion of the object to facilitate its removal.

In one form, the flap is mounted on the back member by a first hinge spaced from the opening, the at least one carrier being connected to the flap by a second hinge spaced from the first hinge.

In a preferred form a plurality of carriers is included.

In this form the carriers may be interconnected by ties, the carrier nearest the back member being connected to the flap and the carrier nearest the front member being restrained so that opening the flap causes a carrier nearer the back member to project further from the pocket than a carrier nearer the front member.

One example includes two pockets, each having said at least one carrier slidable therein and each serving as the flap for the other.

In that example carrier(s) in one pocket may be connected directly to the carrier(s) in the other pocket.

A compact disc player or a tape cassette player may have a case embodying this aspect of the invention.

In accordance with another aspect of the invention there is provided a case having a back member and a flap hingedly mounted on the back member for movement between a closed position in which it covers the back member and an open position in which it does not, and a display panel slidably connected to one of the back member and the flap,

and hingedly connected to the other at a position spaced from the hinged connection between the back member and the flap so that movement of the flap between its closed position and its open position causes the panel to slide in relation to the back member or flap.

The panel may display fixed information, for example information to help the user, or may be a flat panel display screen.

In one example the case is that of a mobile telephone.

In another example the case is that of a computer.

Recognising that when a plurality of carriers are provided, there would be a useful effect when the carriers are not connected to the flap, the invention also extends to a case, comprising: a pocket formed between a front member and a back member and having an opening at one side between said front and back members; and a plurality of carriers slidable in the pocket, the carriers being interconnected by ties, the carrier nearest the front member being restrained so that pulling the carrier nearest the back member withdraws the carriers from the pocket so that a carrier nearer the back member projects further from the pocket than a carrier nearer the front member.

Embodiments of the invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a cross section of a closed CD case

embodying the first mentioned aspect of the invention;

Figure 2 shows the CD case open;

Figure 3 is a pictorial view, partly broken away, of the CD case when closed;

Figure 4 is a pictorial view, partly broken away, of the CD case when open;

Figure 5 is a cross section through a document wallet embodying the first mentioned aspect of the invention when closed;

Figure 6 is a pictorial view of the document wallet when partly closed;

Figure 7 is a pictorial view of the document wallet when open;

Figure 8 is a cross section through a credit card case embodying the first mentioned aspect of the invention when closed, in which the horizontal scale is greatly increased compared with the vertical scale for clarity;

Figure 9 is a cross section of the credit card case when open;

Figure 10 is a cross section of a double credit card case embodying the invention.

Figure 11 is a pictorial view of a CD player having a case embodying the first mentioned aspect of the invention; and

Figure 12 is a pictorial view of a mobile telephone embodying the second mentioned aspect of the invention.

Referring to the drawings, the CD case may be folded

from card or sheet plastics material. The case has a front member 2 and a back member 4 which is an amount d_1 longer than the front member. The front and back members are joined by webs 6 and 8 produced by folding, flaps 10 attached to the webs 8 being adhered to the inside face of the front member 2, as can be seen from Figures 3 and 4. Folds may be facilitated by scoring, e.g. card, or pressing to reduce the thickness, e.g. sheet plastics material.

A flap 12 includes a web 14 which connects it to the outer end of the back member 4. The web 14 is formed between two folds 16 and 18 which act as hinges. In some materials, e.g. leather, a hinge may be provided merely by the material flexing without the need for a definite fold line which may be more necessary in say card or plastics material.

Between the front and back members 2 and 4 a pocket 20 is formed. A carrier 22 is slidable in the pocket 20. The carrier 22 is J-shaped in cross section having a long member 24 and a short member 26 connected by a web 28 produced between folds. The case is folded from one piece of material, e.g. card. The flap 12 has two layers over a portion of its length from a fold 30 to a fold 32, the two layers being adhered together. The fold 32 joins the carrier 22 to the flap at a distance d_1 plus the thickness d_3 of the web 14 from the hinge 18. Again in suitable materials, the hinge 32 may be provided merely by the material flexing without the need for a definite fold line.

As the flap is opened towards the position shown in Figure 2, the fold 32 moves away from the pocket 20 so partly withdrawing the carrier 22 from the pocket. As can be seen from Figure 4, this presents a portion of the CD to facilitate its removal from the case. The amount of the carrier 22 which projects beyond the pocket 20 is determined by difference between the distance d_2 along the surface of the carrier 22 from a first point A on the carrier to the joint with the flap i.e. at the hinge 32, and the distance $d_1 + d_3 + d_4$ to said joint along the surfaces of the back member 4 and the flap 12 (including the web 14) from a second point B on the surface of the back member which second point B is adjacent the first point A when the flap is in its closed position.

Cases with a plurality of carriers will be described in relation to document wallets and credit card holders but could equally be applied to CD cases.

In the document wallet shown in Figures 5 to 7, each carrier is in the form of a relatively stiff sheet 34 and a relatively flexible tie in the form of a connecting web 36. Each web 36 joins the bottom of a sheet 34 to the bottom of an adjacent sheet 34 except in the case of the front sheet 34 which is restrained by being joined to the bottom of the front member 2.

The back sheet 22 extends above the pocket 20 and is joined to the flap 12 along a line 36 e.g. by adhesive. The line 36 is not a fold line in this example. The wallet is

made from polypropylene sheet which is sufficiently flexible to act as a hinge by flexing as may be seen from a comparison of Figures 5 and 7.

As also may be seen from Figure 7, when the flap is open, the carriers 22 are drawn from the pocket 20 in an array with each carrier nearer the back projecting further from the pocket than the adjacent carrier nearer the front.

The flap may be held closed by a fastener. In the example illustrated textile hook and eye fasteners 40 are used.

Apart from size and materials, the credit card case illustrated in Figures 8 and 9 is similar to the document wallet. The preferred material is leather or simulated leather which is held together by stitching instead of adhesive. The size is suitable to receive credit cards. In the drawing the horizontal scale is greatly exaggerated to improve clarity. Additionally, the hinges are shown as defined folds where, in practice, leather may be sufficiently flexible for that not to be necessary.

In Figure 10 a credit card case is shown in which there are two pockets 20 and two sets of carriers 22. Each pocket 20 serves as the flap for the other. The back, or outermost carriers are connected together directly so that when the case is opened both sets of carriers are displayed as illustrated in Figure 9.

In another modification, not illustrated, the rear most carrier is not connected to the flap. In use the

rear most carrier is grasped manually and pulled out of the pocket thus providing an array with each carrier nearer the back projecting further from the pocket than the adjacent carrier nearer the front.

In the above examples the case is made from sheet materials of one sort or another. Cases embodying the invention can be made by any suitable process, however, and from any suitable materials, e.g. by injection moulding plastics materials.

Thus referring to Figure 11, the main part of the personal CD player case contains the mechanism between the front member and rear member 4. The carrier 22 for the CD 42 is slidable in the case, as is conventional in standard size rack mounted or stacked equipment, except that the mechanism which moves it embodies the invention. Thus the carrier is slidable in the pocket between the front member 2 and back member 4 and is hingedly connected to the flap in the form of a lid 44 so that closing the lid slides the carrier 22 into its operative position in relation to the mechanism, and opening the lid 44 slides the carrier to a position exposing the CD for removal therefrom.

In Figure 12, the back member is of the case carries the telephone's key pad and microphone 48. The flap 50 contains the earpiece 52. The flap 50 is hinged to the back member 4 at 54 and, shown in its open position, may be closed over the back member 4 so as to reduce the length of the apparatus and protect the keys in the key pad. As is

common, the telephone has a flat panel display screen 56. The mounting for the display screen 56 embodies the invention, however. To that end, one end 58 of the display screen is slidably mounted on the back member 4. It may slide over the key pad or into a pocket under the key pad. The other end 60 of the display screen is pivotally connected to the flap 50 so that when the flap 50 is closed, the display screen 56 slides over or behind the key pad 46 and is withdrawn to the position shown when the flap is opened.

A similar arrangement can be made for computers, e.g. of the laptop variety or in the form referred to as personal organisers.

CLAIMS

1. A case, comprising: a pocket formed between a front member and a back member and having an opening at one side between said front and back members; and a flap mounted on the back member for movement between a closed position in which it closes the pocket and an open position in which the pocket is open, at least one carrier being slidable in the pocket and connected to the flap, the distance along the surface of a carrier from a first point on the carrier to the joint with the flap, being less than the distance to said joint along the surfaces of the back member and the flap from a second point on the surface of the back member which second point is adjacent the first point when the flap is in its closed position, so that movement of the flap from its closed position to its open position causes the carrier(s) to project partly from or further from the pocket.

2. A case as claimed in claim 1 wherein the flap is mounted on the back member by a first hinge spaced from the opening, the at least one carrier being connected to the flap by a second hinge spaced from the first hinge.

3. A case as claimed in claim 1 or 2, including a plurality of carriers.

4. A case as claimed in claim 3, wherein the carriers are interconnected by ties, the carrier nearest the back member being connected to the flap and the carrier

nearest the front member being restrained so that opening the flap causes a carrier nearer the back member to project further from the pocket than a carrier nearer the front member.

5. A case as claimed in any preceding claim, including two pockets, each having said at least one carrier slidable therein and each serving as the flap for the other.

6. A case as claimed in claim 5, wherein the carrier(s) in one pocket is (are) connected directly to the carrier(s) in the other pocket.

7. A compact disc player having a case as claimed in any preceding claim.

8. A tape cassette player having a case as claimed in any of claims 1 to 6.

9. A case having a back member and a flap hingedly mounted on the back member for movement between a closed position in which it covers the back member and an open position in which it does not, and a display panel slidably connected to one of the back member and the flap, and hingedly connected to the other at a position spaced from the hinged connection between the back member and the flap so that movement of the flap between its closed position and its open position causes the panel to slide in relation to the back member or flap.

10. A case as claimed in claim 9, wherein the display panel is a flat panel display screen.

11. A mobile telephone having a case as claimed

in claim 9 or claim 10.

12. A computer having a case as claimed in claim 9 or claim 10.

13. A case, comprising: a pocket formed between a front member and a back member and having an opening at one side between said front and back members; and a plurality of carriers slidable in the pocket, the carriers being interconnected by ties, the carrier nearest the front member being restrained so that pulling the carrier nearest the back member withdraws the carriers from the pocket so that a carrier nearer the back member projects further from the pocket than a carrier nearer the front member.

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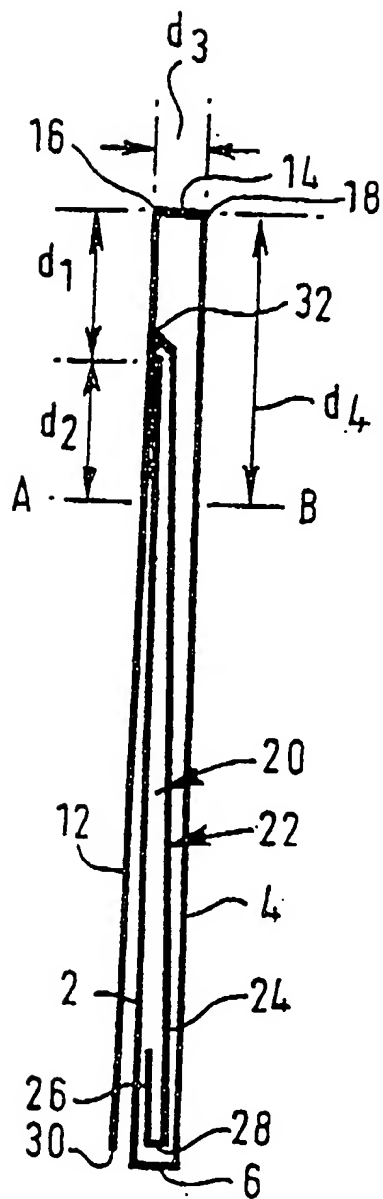


FIG.1

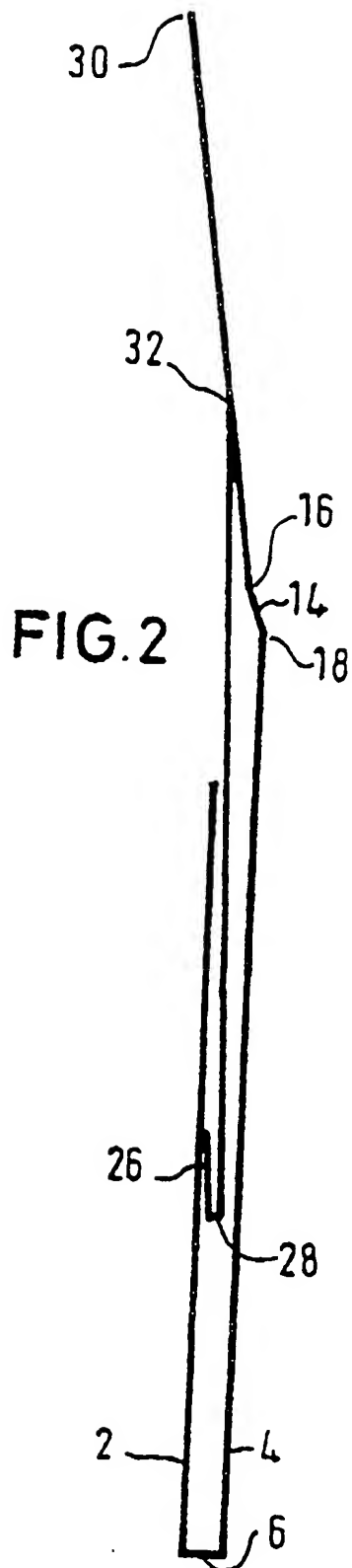
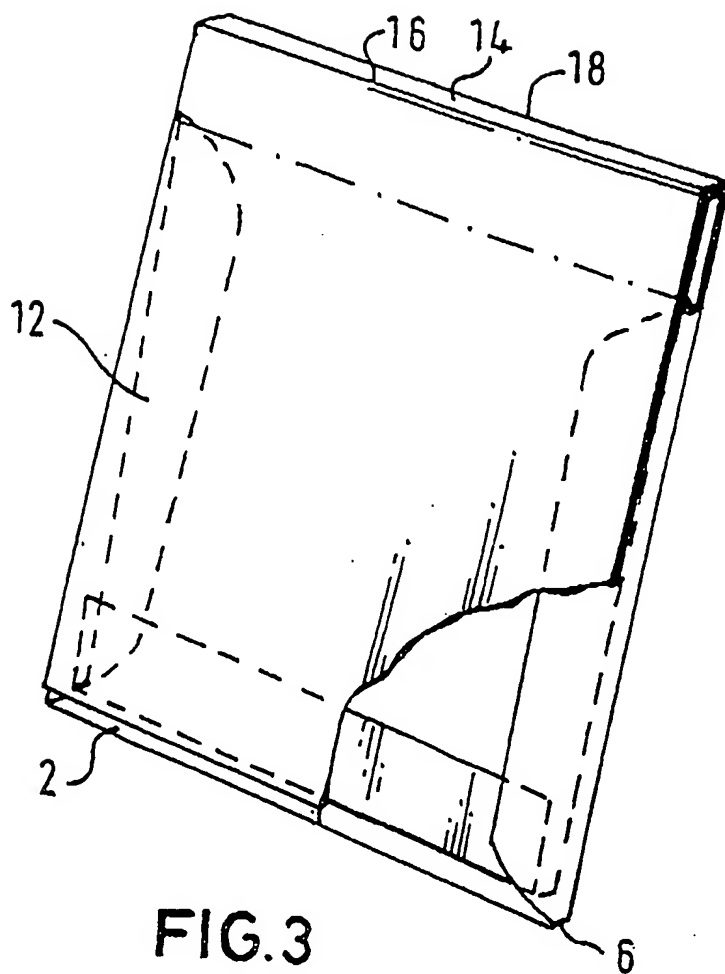
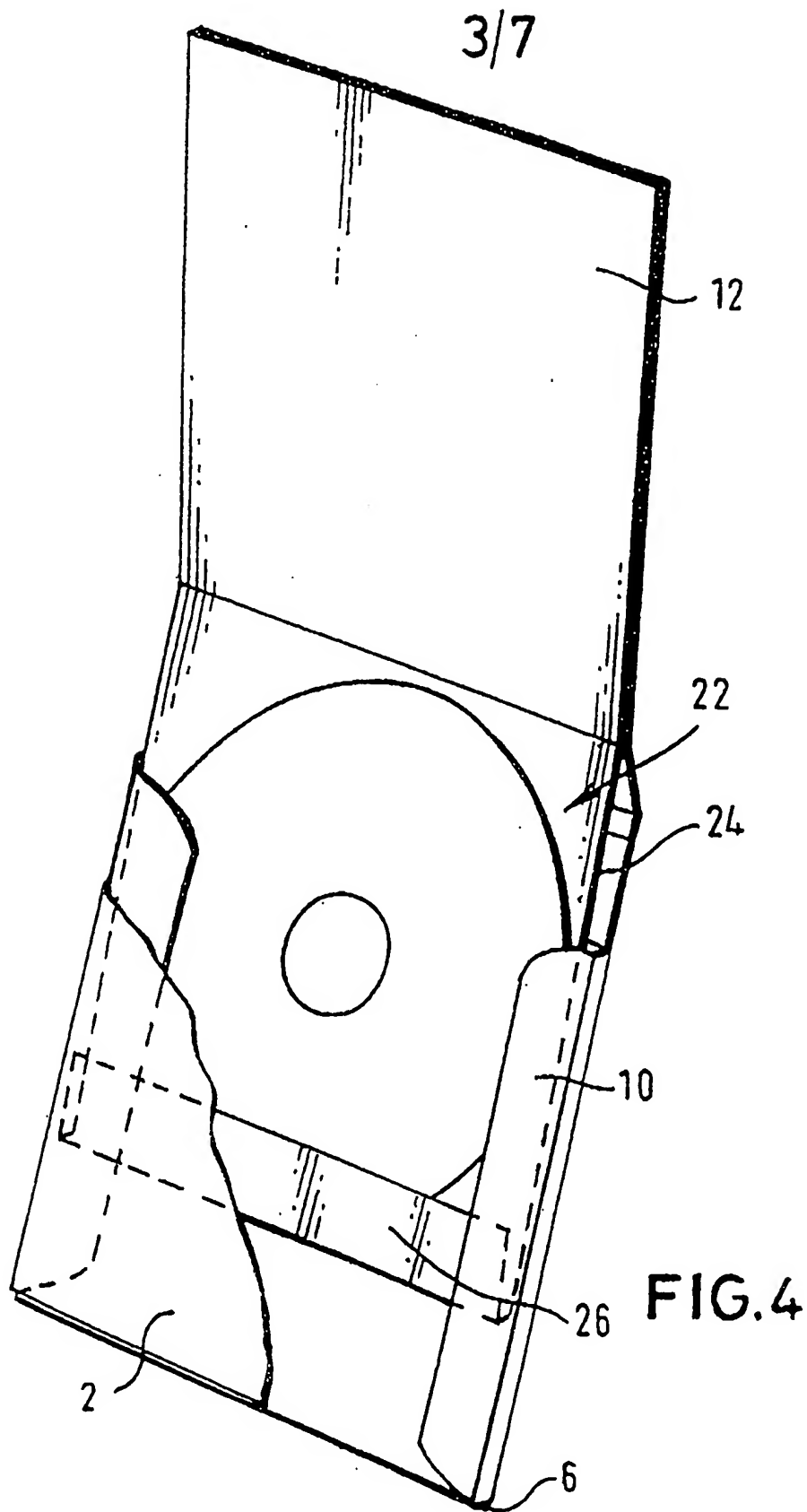


FIG.2

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FIG. 5

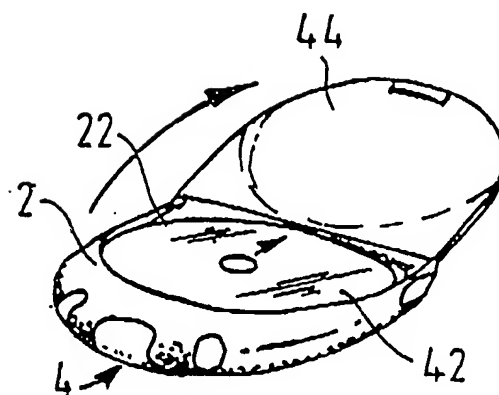
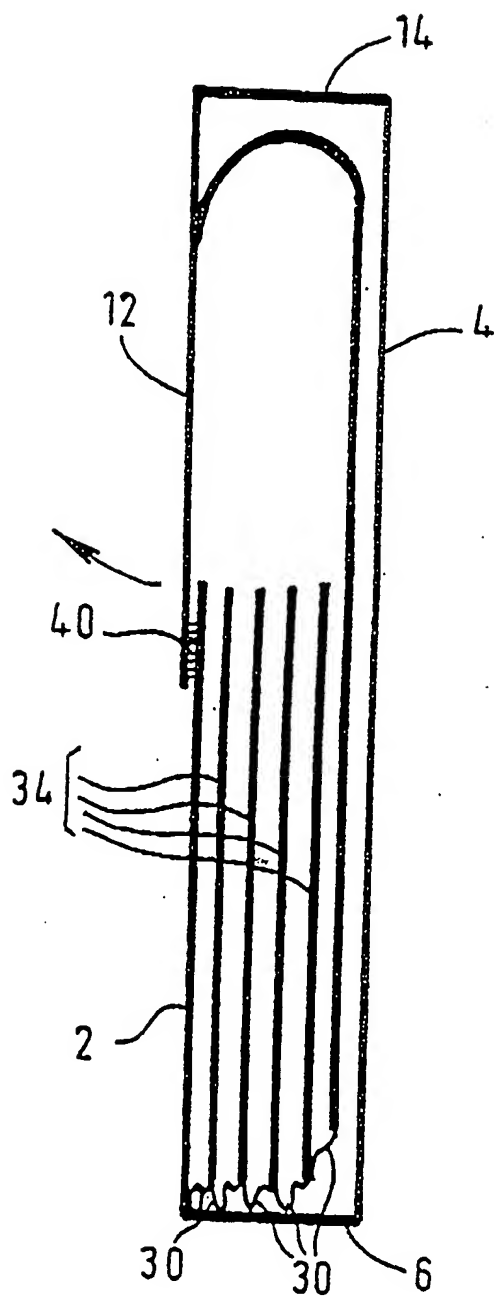


FIG. 11

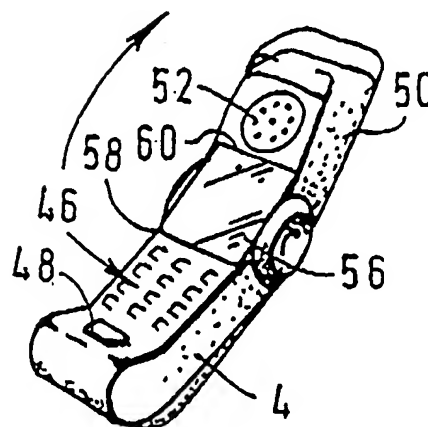
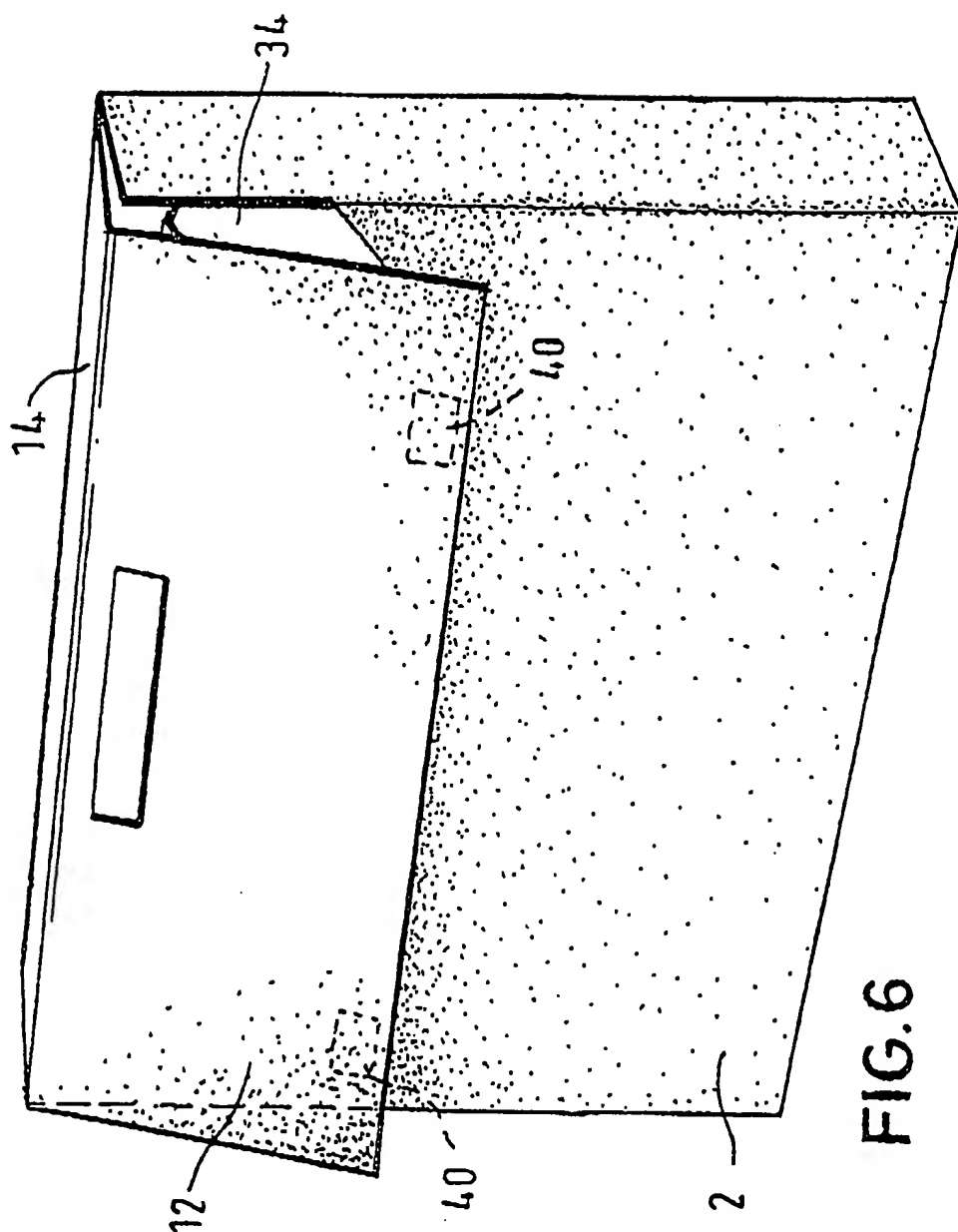


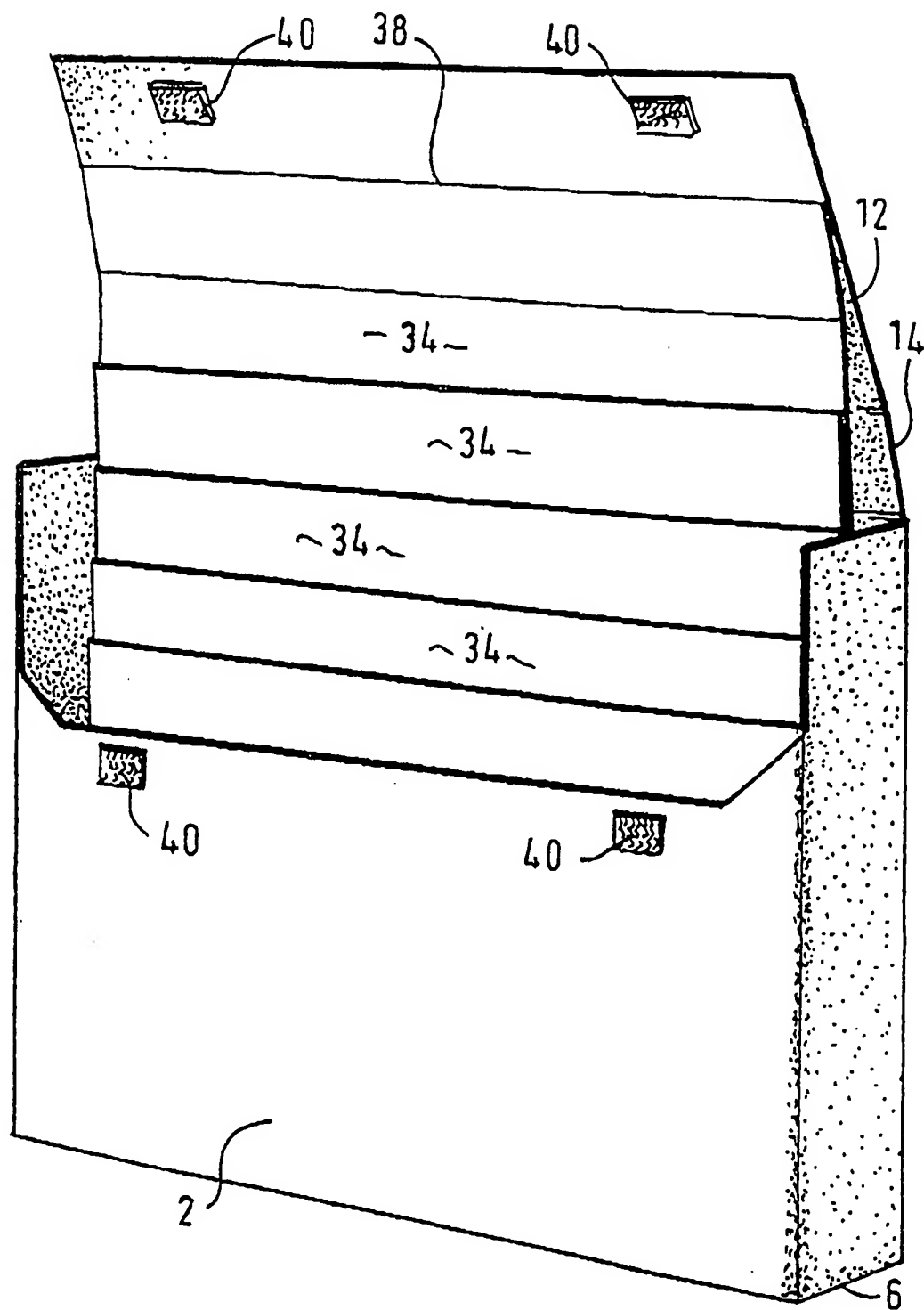
FIG. 12

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FIG.7



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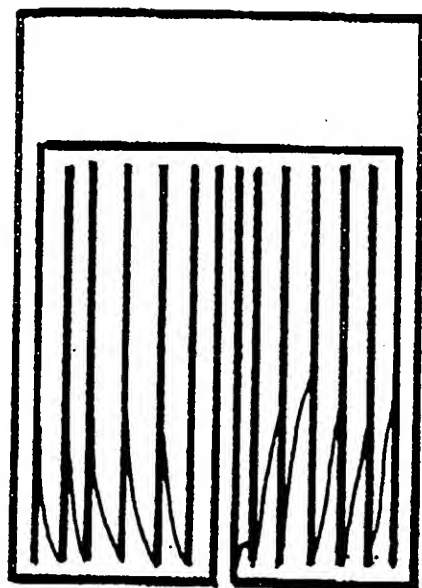


FIG. 10

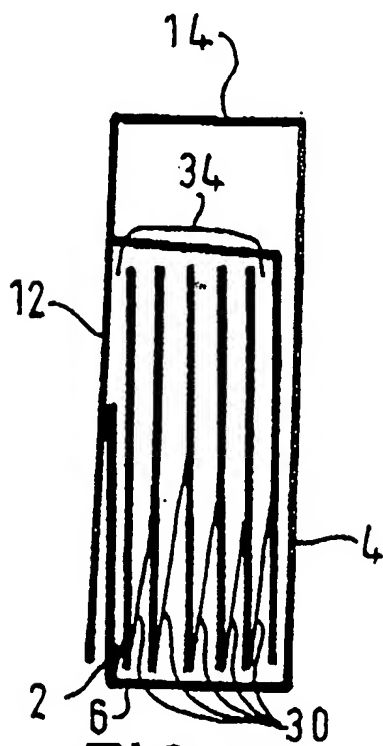


FIG. 8

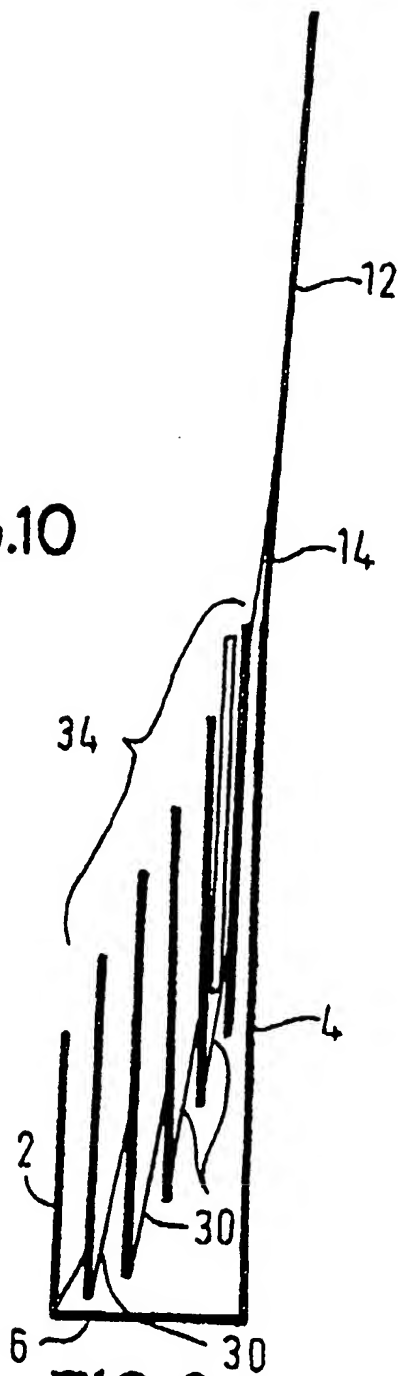


FIG. 9